Tempe Fire Department Policies and Procedures
Atmospheric Monitoring for Carbon Monoxide
208.01H
Rev 8-23-91

SCOPE

This procedure establishes policy and procedures for taking measurements of atmospheric concentrations of carbon monoxide.

PURPOSE

The purpose of this policy and procedure is to provide the Incident Commander with a method to characterize an atmosphere that has been contaminated with carbon monoxide or is suspected to be contaminated with carbon monoxide.

POLICY

It is the policy of the Tempe Fire Department that all members shall utilize self-contained breathing apparatus in atmospheres containing 35 parts per million or greater of carbon monoxide. The Incident Commander is responsible for atmospheric monitoring for carbon monoxide in atmospheres that contain carbon monoxide or is suspected of containing carbon monoxide.

GUIDELINES

Carbon monoxide may be present for several different reasons: As a by-product of combustion, an emission from internal combustion engines, a chemical reaction, or a leak from an industrial process.

Carbon monoxide has approximately the same vapor density (weight) as air. When monitoring for CO, instruments do not have to be placed near the floor or ceiling for accurate readings.

The threshold limit valve (TLV) that has been established by the American Conference of Governmental Industrial Hygienists is 50 parts per million. This exposure level is for an eight hour day, forty hour week, without any respiratory protection. The maximum ceiling is 200 parts per million without respiratory protection. Consider the following before removing SCBA:

- An atmospheric concentration of CO that is below the TLV does not always indicate an adequate level of oxygen. An atmosphere containing less that 19.5% oxygen requires the use of SCBA.
- An atmospheric concentration of CO that is below the TLV does not always indicate that other toxic gases or products of combustion (particulate matter) are not present.
- An atmospheric concentration of CO that is below the TLV with the presence of visible smoke particles still requires respiratory protection.
- Positive pressure ventilation will reduce the CO content as well as other gases.

All atmospheric monitoring instruments should be spanned or calibrated prior to each usage or on a weekly basis if they have not been used.